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U.S. DEPARTMENT OF AGRICULTURE

FARMING FOR GREATER PRODUCTION OF WAR CROPS

in the Intermountain and Southwestern Country

FOOD FOR FREEDOM

United States
Department of Agriculture
Soil Conservation Service
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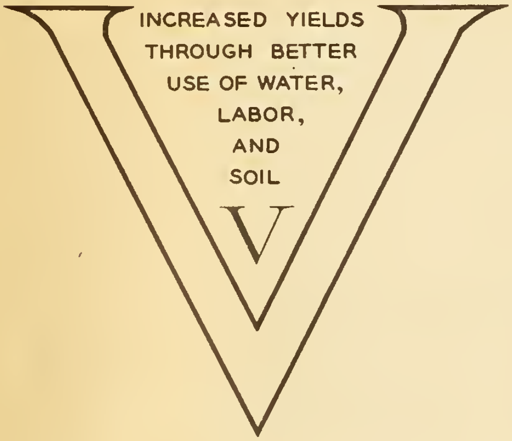
Conservation Farming Vital To Meet War Goals



Through extra effort by every member of the farm family our fighting forces and civilian workers have been fortified with the greatest store of food and other agricultural products ever produced on farms and ranges of the United States.

This record output of food and fiber from the farm front now furnishes important driving power on the whole world war front to turn the tide against aggressor nations. But there is a continuing need for vastly greater quantities of agriculture's "weapons of war" for as long as the war may last, and we must wisely try also to keep our land in good condition for peacetime needs after the war strain is over.

We Need Extra Margin of Safety

Conservation farming methods, therefore, become an important consideration in our production planning. Only through following sound and practical conservation methods can we be sure of pulling through with a safe margin. The farm plant, like any other productive machinery, will break down if it is driven too hard without protective care. If such break-downs should occur on very many farms, the result might conceivably be disastrous for the United Nations' cause, because eroded and "burned out" land will not produce the agricultural commodities that are essential for victory. Conservation management is our best safeguard.

As an immediate benefit, conservation methods can help to make up for present handicaps of reduced labor supply, less machinery, shortages of fertilizers, and less favorable weather that may be ahead. Many farmers have proved that practical and sound conservation management will help to increase yields, make more efficient use of labor, save wear on machinery, reduce motor-fuel consumption, and lessen the need for purchased fertilizer—at the same time maintaining the productivity of the land for future harvests.

There is nothing of a "miracle" in such accomplishments, because conservation farming simply means good husbandry that stops the leaks and gets the most possible out of the land without wastage of precious water and topsoil.

As a means of encouraging more widespread adoption of conservation methods, the Department of Agriculture is conducting a special program of assistance through Department of Agriculture War Boards and agencies best equipped to help, drawing upon practical experience that has been gained during the last 10 years of National farm program development.

Under educational leadership of the Extension Service, and with the cooperation of the Agricultural Adjustment Agency and the Soil Conservation Service, every farmer in the intermountain and southwestern country (and elsewhere in the Nation), is being offered particular aid in applying conservation measures that will support increased production of those commodities for which goals have been set.

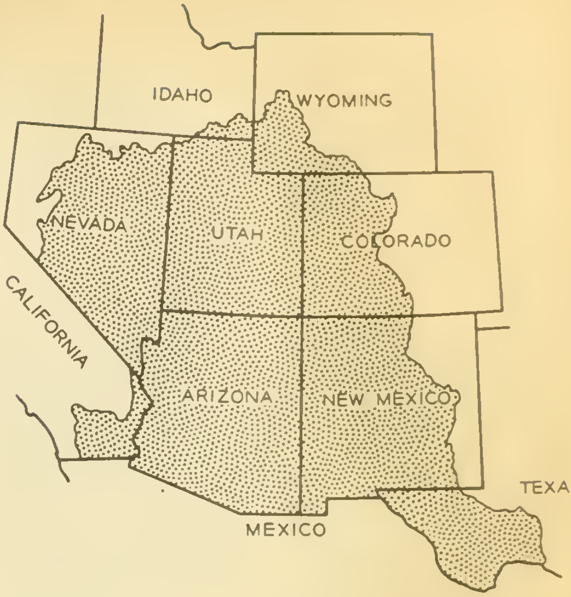
"Selective Service" for Every Acre

The first principle of soil and moisture conservation is proper use of the land—putting the right goal crop on the right part of the farm. This is selective service for every acre that takes into account the physical make-up, the quality and condition of the soil in each field, the slope of the land, the degree of erosion that has already taken place, and other limitations.

Some farms are too small to make proper changes whereby the right crop can be put on the right land. In such instances, purchase or rental of additional land may be necessary before the farm can become efficiently operated and a conservation system of management put into effect. Opportunities for purchasing or leasing to round out an economic unit are now occurring more frequently as small operators go into the armed forces or defense work, and as large operators need to retrench because of labor shortage.

After crops are fitted to the right field, such conservation practices should be adopted that each part of the farm or ranch will be kept in good productive condition. Land that is comparatively level, with deep fertile soil, may need only simple care, whereas sloping and eroded lands will require additional and more complex treatment. Taking care of the needs of each individual field and each portion of the range is just a commonsense matter of good farming and range management to prevent a decline of the soil and to insure sustained yields.

The planning of a complete conservation program, accurately fitted to the condition and needs of all parts of the farm, usually requires assistance of trained technicians. This is the specialized kind of assistance which technicians of the Soil Conservation Service have been extending to farmers and ranchers in the intermountain and southwestern country for 8 years. For the last several years special scientific aid of this nature has been concentrated largely in local soil conservation districts.



First Steps to Start Profitably at Once

This detailed fitting of a conservation plan to the needs of each farm or ranch through group action in a soil conservation district is the most successful way ever devised to obtain thorough results on the land, and every farm and ranch operator should share in the program and its benefits. Without waiting, however, until a complete plan can be made available in this thorough manner, simple first-step conservation practices can be put into effect by almost every farmer and rancher immediately as a wartime means of fortifying goal commodity production.

General recommendations on practices that can be easily employed as "stepping stones" to a complete conservation program are described on the following pages. Conservation payments can be earned under the AAA program for carrying out most of these practices. Additional "how-to-do-it" information on the application of individual practices may be obtained from State colleges of agriculture, county agents, AAA committeemen, Soil Conservation Service workers, and soil conservation district supervisors. Other publications of the Department of Agriculture may also be consulted.

Simple Practices on Irrigated

During the last war period we ruined millions of acres in a reckless urge to cash in quickly on strong market demands. We cannot afford to repeat this costly mistake; and our land need not be abused in order to fill present war requirements. Since the last war we have learned how to get maximum production without "mining" our soil or devastating our ranges. We now need to put this knowledge to work as fully and quickly as possible.

Irrigated farms must be relied on to produce a high percentage of the commodities that are needed for victory. Despite their important contribution to the war cause last year, many irrigated farms are capable of producing from 10 to 25 percent more, without extra labor and with little more expense, by the adoption of conservation methods.

A good many farms are handicapped by poorly arranged irrigation systems. Better designed lay-outs would help prevent wastage of water, time, fertility, and topsoil. Such present losses could be converted into increased production and higher income.

To make all of the needed improvements, the services of a trained soil conservationist are required, but some improvements can be adopted at once by the irrigator himself, simply and economically. Some practical suggestions are listed.

1. Get the right goal crop on the right land, putting row crops on the better fields having deeper soil and least slope. This will help to get most efficient and productive use from each field, with safer care of the land.

2. Retire rough, steep, stony, waterlogged, alkali, and eroded areas to permanent or semipermanent pasture use. This will save labor and operating costs, provide more livestock feed, and also keep the land from declining further in value.

3. Follow a systematic rotation so that all the parts of the farm will be benefited in turn, keeping from a third to a half of the land in soil-building crops like alfalfa, preferably seeded with a grass mixture. Leave a good amount to plow under as green manure after a legume crop has served its purpose for hay and pasture. This will help to build up fertility and productiveness of the entire farm, improve the tilth and water-taking qualities of the soil, and help to minimize erosion losses.

4. Level all fields, being careful that leveling is properly carried out where topsoil is shallow. This will provide for more uniform application of water and better crop yields.

5. Plant and irrigate on the contour as nearly as possible, instead of straight downhill. This will help to keep topsoil from washing, thereby saving valuable plant food.

6. Avoid long runs and excessive heads of water on sloping land. Experiment with different lengths of runs, different heads of water, and even different methods of irrigation, in order to determine which is best for each field. This will help further to save time, water, and soil fertility.

7. Increase use of commercial fertilizers.

8. Study the moisture needs of each crop, applying just the right amount of water and no more. Use a soil auger, probe or shovel in judging how much moisture there is in the soil, how deep it has penetrated and how much is needed. Don't overirrigate. Keep a written record of the amount of water used in each field. Where a measuring device is not available, measure the depth of the flow out of the turnout box or in a flume, and note the time on each field. This will provide essential information for later use in making improvements. These practices will help produce better crops, prevent waste of water, reduce leaching of plant-food elements, minimize alkali hazards, and avoid soil losses.

Land to Increase War-Crop Production Safely

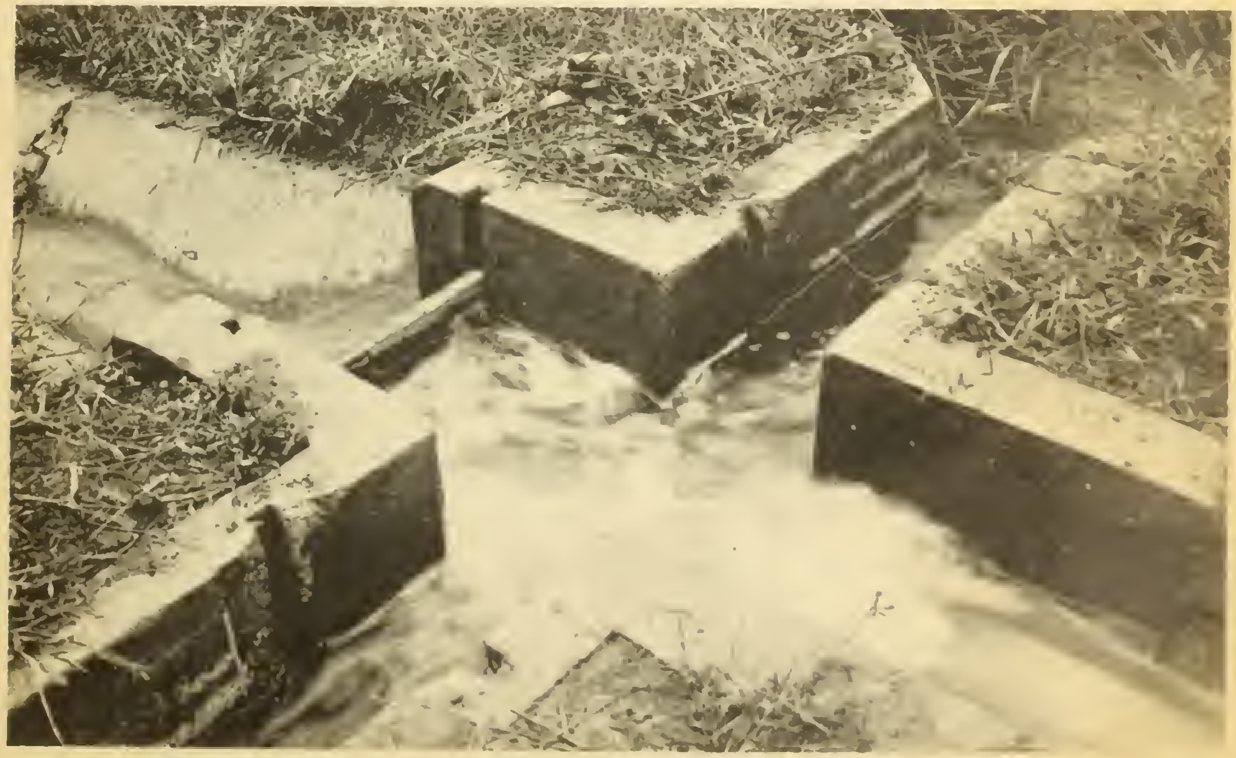
9. Keep ditches as clean of weeds as possible with limited labor. Install wooden turnout boxes, flumes, and drops. These measures will help to save water, and reduce soil and crop losses.

10. Improve pastures by using best seeding mixtures obtainable, and by renovating old seedings. Allow grass to get a good start in the spring before pasturing, and do not graze too short. Divide the pasture and use each portion in rotation, if practicable. Clip weeds at blooming time. This will give more production of feed, longer pasture life, and higher returns, plus more benefit to the land.

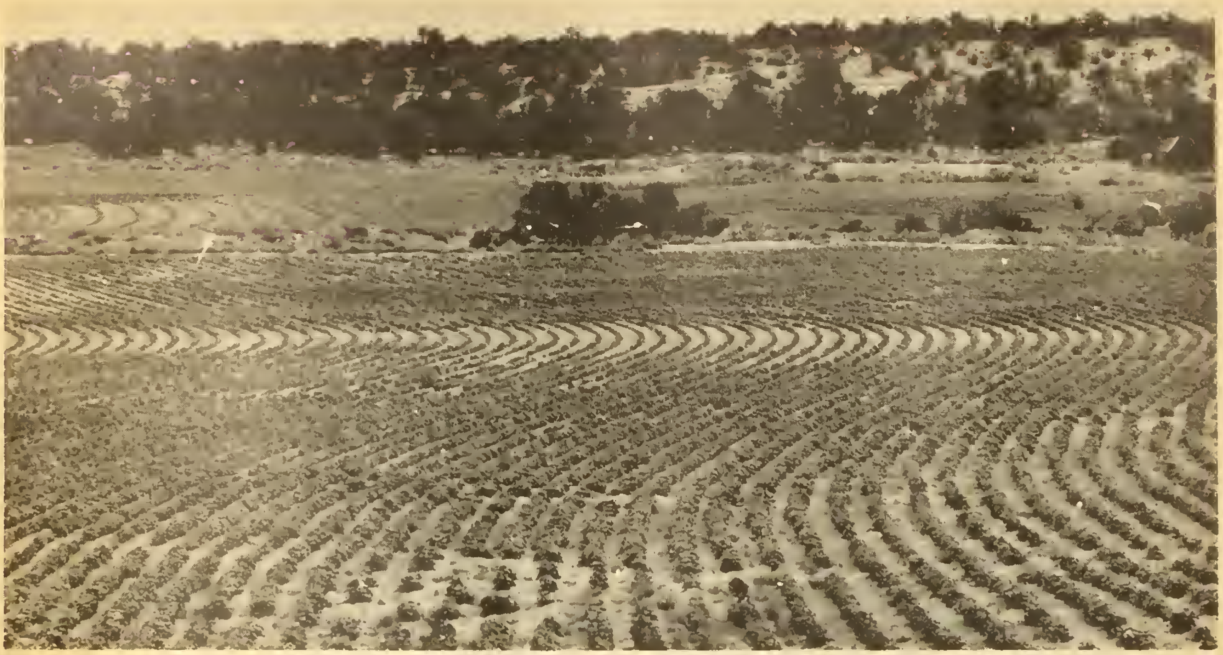
11. Haul barnyard manure to the fields before it wastes away, applying it on locations most needed, but seeking to cover the entire farm eventually. This will help to increase fertility, improve the tilth through addition of humus, and maintain yields.

12. Leave crop residues on the land without burning, and scatter them over the surface as a mulch. This will help to prevent washing and blowing of the topsoil and will add organic matter for increased fertility and better yields.

An Arizona farmer, raising war crops, has been able to irrigate with one-third less water, has increased production by one-third, and has cut his irrigation labor in half through improving his irrigation lay-out.



Simple Practices to Increase



Dry-farming lands are subject in many cases to both torrential rainfall that washes away valuable topsoil and damages crops and to rainfall shortages that cut down yields. Conservation farming methods can help to reduce both hazards.

The critical need is to follow practices that help to catch and hold every bit of moisture possible for the growing crops. Also, there is a need for leading the surplus water off safely when too much rainfall comes at one time.

Through the use of such conservation practices maximum production will be insured year after year, thus avoiding extreme losses when unfavorable weather conditions are encountered.

Some suggestions that can be followed immediately to good advantage, with a minimum of time and effort, are the following:

1. Get the right war crop on the right land, using more level fields with deeper soil to grow row crops. This will help to get the most out of the land, with careful attention to safe care.

2. Retire steep slopes, waterways, and gullied and eroded areas to grass plantings for permanent or semipermanent pasture use. Woodland plantings also may be established profitably on such areas where adaptable. This will provide economical livestock feed and a supply of fence posts and firewood on land that cannot be farmed profitably otherwise; also it will reduce operating costs and help protect the poorer portions of the farm against further decline.

3. Use the tillage methods that will leave the soil porous and in good tilth with the least amount of pulverizing. This will increase water-holding capacity.

4. Till and plant as nearly as practicable on the contour—across the slope instead of uphill and downhill. This will leave miniature dams to catch and hold moisture, curb soil-erosion losses, and provide increased yields.

5. On long sloping fields or where wind erosion is a problem, break up solid plantings of row crops with strips of close-growing crops, such as sorghum and feed grains planted on the contour. Also build terraces on the contour where needed. This will help materially to hold rainfall, keep topsoil from washing and blowing away, and increase yields.

War-Crop Production on Dry-Farming Land Safely

6. Follow a planned rotation system to cover the entire farm in time, incorporating adapted grasses according to locality. This will help to provide economical livestock feed, keep up soil fertility, improve soil tilth through the addition of humus, give greater protection against erosion, and maintain highest yields.

7. Make good use of all crop residues by scattering them on the land as mulch—never burning grain stubble, or other plant cover. This will help to prevent washing and blowing of the topsoil, improve the water-holding capacity and fertility of the soil through the addition of humus, and insure better yields.

8. In areas where there is not sufficient crop residue to prevent blowing in the winter or early spring months, blank-list the land on the contour before the windy season. This will hold the soil against blowing and will help to conserve moisture and prevent run off.

A sound formula for both personal benefit and national protection and security:

Produce Food for Freedom the conservation way to obtain maximum yields and keep the land productive for all time.

Use extra returns to get out of debt and to build up a reserve fund through the purchase of war savings bonds.

Practical Range Conservation

More efficient production of beef, mutton, and wool for wartime needs, as for peacetime markets, can be obtained by following sound and practical range conservation methods. Production on a conservation basis also is vitally necessary to prevent waste of soil and water resources, and to provide watershed protection for towns and irrigation districts.

There are several basic principles that should not be neglected in any sound range conservation program. Ranchers who adopt and diligently follow these principles can make their greatest contribution to the Food for Freedom effort, and at the same time obtain maximum returns. In addition, a stronger foundation will be built for meeting the conditions that may follow the war. Some practical suggestions are listed.

1. On strictly spring range let the height, growth, and soil condition be the guides as to the time when grazing is begun. Keep stock off in the spring until the key forage plants have reached a height of 4 to 6 inches. It is advisable to take the stock off at the end of the season so as to leave 25 percent of the seedstalks of key forage plants. This will allow the plants to reproduce and maintain their vigor.
2. Plant or obtain supplemental feed for use before the range is ready in spring, and after animals have been removed in the fall, if winter range is not available. This will aid range recovery, especially in the higher and northern sections of the region.
3. Establish a deferred rotation plan of grazing, if feasible, and plan to graze various portions of the range in such a way as to give the plants a rest period without being grazed.

Methods Produce More Meat and Wool for War

4. Distribute livestock so the whole area will be grazed as uniformly as possible. Better distribution can be facilitated by developing water, so travel will not be excessive, by supplying salt at temporary, strategic locations, and by building division and drift fences. Sheep should be herded away from overused areas. It is best not to bed sheep down more than one or two nights on the same spot.

5. Graze the kind and class of livestock that will use the range most profitably. Sheep usually prefer the finer grasses and shorter browse species. Cattle will more readily eat the coarser grasses. Careful management will prevent overuse of any of the plants, and especially of the key species.

6. Adjust numbers of livestock to conform with the estimated total feed available from the ranch and do not overgraze any unit. Cull out inferior and unprofitable animals. No pasture or range will yield its maximum potential income if continually stocked in excess of sustained grazing capacity. Continued overstocking will result in a decrease of the more valuable forage and its partial or complete replacement by weeds and other plants of lower value. Wartime overstocking for short periods if range is supernormal, or when supplemental feed supplies are abundant, is a possibility.

Working Together Through

When farmers come face to face with a big and important problem involving their whole neighborhood, they usually find that cooperative action is the key to getting the job done.

That's the action many farmers and ranchers in the intermountain and southwestern country are taking to work out their problems of soil erosion and better land use and protection. They are learning that the job can be done best through neighborhood teamwork—the cooperative way.

As a result of this experience and decision, farmers and ranchers of Utah, Colorado, New Mexico, and Arizona have organized, as of October 1942, 97 cooperative groups through which they are attacking the big and important job of soil conservation in neighbor-with-neighbor fashion. The formal name of these cooperative land-problem groups is soil conservation districts. They embrace an area of more than 64,500,000 acres in the four Southwestern States, Colorado, Utah, Arizona, and New Mexico.

Such districts are organized in accordance with State-enabling legislation, under leadership of a State soil conservation committee. They are founded upon the sound principle of local initiative, local direction, and local control, and are formed only after local landowners and operators have talked over the plans and then make their decision by voting upon the proposal. The soil conservation district movement has been appropriately termed "democracy in action."

In this neighborly manner, landowners and operators who band together in a natural-problem area have an organized means of pooling their efforts in attacking the problem of better land use. Cooperatively they are able to develop and carry on an improvement program to the full extent of their own local means.

A soil conservation district also provides a systematic and effective means for calling upon outside assistance from Federal and State agencies, to help in certain jobs that are beyond local self-help capacity.

Fields like this show what can be done when farmers and ranchers work together.

Soil Conservation Districts

For instance, nearly all of the resources of the Soil Conservation Service are now devoted to the assistance of districts, and valuable aids are available also from all other bureaus of the U. S. Department of Agriculture and from other Federal and State agencies. Thus, under guidance of soil conservation district supervisors, who are familiar with local problems, all resources and interests, local, State, and Federal, are being pooled to cooperative advantage.

Group action is particularly appropriate in dealing with physical problems of the land, because soil erosion and land problems are not respecters of fence boundary lines. This is particularly the case in the intermountain and southwestern country where there is such an interrelationship between the various uses of land, all being affected by good or bad management of any particular portion.

As an example, irrigation farmers are acutely dependent upon the proper management of the entire watershed, in order to be sure of receiving adequate supplies of water for crop production in the valley lands. Proper use of the upper watersheds means not only better range for livestock, but it also reduces floods and silt that shorten the effective lives of the great irrigation reservoirs. Soil conservation districts provide a better and more profitable management of all lands within the district boundaries.

Millions of men are fighting and dying in Europe and Asia to gain or hold possession of land, and to obtain access to the products of the land. Yet, in this country we have indifferently permitted the destruction of millions of acres by erosion, during the short span of but a few generations.

Soil conservation is not, therefore, just a matter of concern to the individual farmer. Our whole national future depends upon good land management. Prosperity can't be built on land that has been destroyed by erosion.

The Job We Face

Farmers today are facing the hardest job they have ever tackled. The food needs of our allies, of our own Army and Navy, and of our war workers at home, are increasing almost every day. There are also other farm products besides food that are needed to win the war.

Therefore, agriculture must be able to supply unprecedented quantities of specified foods and fibers, fats and oils—despite serious shortages of farm labor, transportation, machinery and tools, and fertilizers.

This means that our croplands will have to be kept in first-class condition. Land that is exhausted by intensive cropping and is not "rebuilt" will not produce big yields, and you can't grow record crops on gully-slashed fields. The only way we can be sure of getting the foods and fibers we need to win the war, when they're needed, is to make the best possible use of our land and keep it in peak-production condition.

Better land use means not only employment of sound farming principles but also the application of conservation practices that are known to increase yields, protect the farmer's capital investment—his land—and save manpower, fuel, machinery, and horsepower.

Conservation farming—not in the sense of skimping or hoarding, but productive conservation—is a wartime necessity.

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